LGB2118A
LGB2124A

BLACK BOX®

Gigabit Smart Switch Eco Fanless

# Quick Start Guide

Supports http and SNMP interfaces for switch management.

**Customer Support Information**

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## 1. Overview

The Gigabit Smart Switch Eco Fanless is a standard switch that meets all IEEE 802.3/u/x/z Gigabit and Fast Ethernet specifications. The LGB2118A switch has (16) 10-/100-/1000-Mbps TP ports and (2) Gigabit SFP fiber transceiver slots. The LGB2124A switch has (20) 10/100/1000Mbps TP ports and (4) Gigabit dual media TP/SFP transceiver slots. Both switches support http and SNMP interfaces for switch management. The network administrator can logon to the switch to monitor, configure, and control each port's activity. In addition, the switch implements Quality of Service (QoS), VLAN, and Trunking.

The LGB2118A switch's Ports 17 and 18 support SFP fiber modules (with LC connectors). The LGB2124A switch's Ports 21, 22, 23, and 24 include two types of media—TP and SFP Fiber (with LC connectors). The four combo ports on the LGB2124A support 10-/100-/1000-Mbps TP or 1000-Mbps SFP Fiber with auto-detection. A 1000-Mbps SFP Fiber transceiver is used for high-speed connection expansion.

Table 1-1. 1000-Mbps SFP fiber transceivers.

| Product Code | Description |
|---|---|
| LFP411 | SFP, 1.25-Gbps Fiber with Extended Diagnostics, 850-nm Multimode, LC, 300 m |
| LFP412 | SFP, 1.25-Gbps Fiber with Extended Diagnostics, 1310-nm Multimode, LC, 2 km |
| LFP413 | SFP, 1.25-Gbps Fiber with Extended Diagnostics, 1310-nm Single-Mode, LC, 10 km |
| LFP414 | SFP, 1.25-Gbps Fiber with Extended Diagnostics, 1310-nm Single-Mode, LC, 30 km |

## 2. What's Included

Before you install the switch, verify that the package contains the following:

- 18- or 24-Port Gigabit Smart Switch Eco Fanless
- Mounting accessory (for 19" Rack Shelf)
- AC power cord
- This Quick Start Guide

### How to Download the User Manual

The Gigabit Smart Switch Eco Fanless user manual gives specific information on how to operate and use the management functions of the switch:

To download the Gigabit Smart Switch Eco Fanless user manual from the Web site:

1. Go to www.blackbox.com
2. Enter the part number (LGB2118A or LGB2124A) in the search box:
3. Click on the "Resources" tab on the product page, and select the document you wish to download.

If anything is missing or damaged, contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

You might also need:

- SFP Modules (optional, LFP411, LFP412, LFP413, or LFP414, described in Table 1-1).

## 3. Starting Up the Switch

This section will give users a quick start for:

- Hardware and cable installation.
- Management station installation.
- Software booting and configuration.

## 3.1 Hardware and Cable Installation

*CAUTION:*

*Wear a grounding device to avoid damage from electrostatic discharge.*

*Make sure that the power switch is OFF before you insert the power cord into the power source.*

### Installing Optional SFP Fiber Transceivers to the Gigabit Smart Switch Eco Fanless

*NOTE: If you have no modules, please skip this section.*

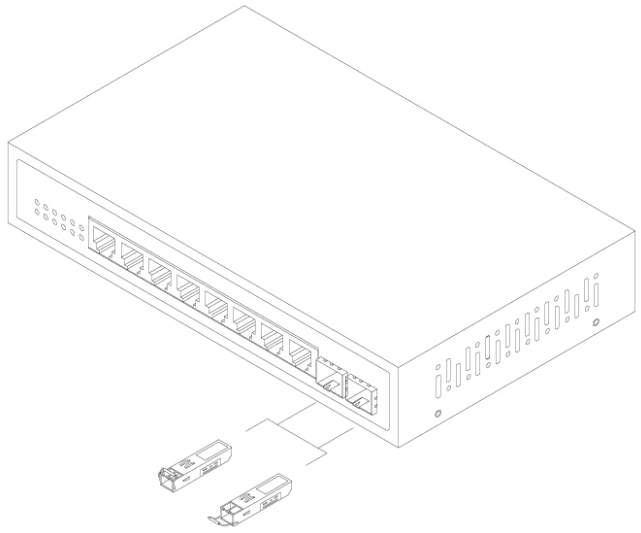

Figure 3-1. Installing an optional SFP fiber transceiver.

Connecting the SFP module to the chassis:

The optional SFP modules are hot swappable, so you can plug or unplug them before or after powering on.

1. Verify that the SFP module is the right model and conforms to the chassis.
2. Slide the module into the slot. Make sure that the module is properly seated against the slot socket/connector.
3. Install the media cable for network connection.
4. Repeat the above steps, as needed, for each module to be installed into the slot(s).
5. Power ON the switch after the above procedures are done.

### TP Port and Cable Installation

The switch's TP ports support MDI/MDI-X auto-crossover, so you can use straight-through or crossover cable.

Connect CAT5 grade RJ-45 TP cable to a TP port of the switch and connect the other end to a network-aware device such as a workstation or a server.

Repeat the above steps, as needed, to connect each RJ-45 port to a Gigabit 10/100/1000 TP device.

The switch is ready to operate.

### Power On

The switch supports a 100–240 VAC, 50–60 Hz power supply. The power supply will automatically convert the local AC power source to DC power. The switch's ports are hot-swappable, so you can plug in devices or SFPs while the switch is powered on. After the power is on, all LED indicators will light on and then all will go off except for the power LED, which remains on. This resets the system.

### Firmware Loading

After resetting, the bootloader will load the firmware into the memory. It will take about 30 seconds; after that, all the LEDs on the switch will flash once while the switch performs a self-test and is ready to use.

## 3.2 Cabling Requirements

For successful installation and good network performance, follow these cabling requirements. Low-quality cables can cause the switch to malfunction.

### Cabling Requirements for TP Ports

For Fast Ethernet TP network connections, use CAT5 or CAT5e cable that's up to 328 feet (100 m) long. For Gigabit Ethernet TP network connections, use CAT5 or CAT5e cable that's up to 328 feet (100 m) long. We recommend using CAT5e cable.

### Cabling Requirements for 1000SX/LX SFP Modules

There are two categories of fiber: multimode (MM) and single-mode (SM). Single-mode cable is categorized into several classes by the distance it supports. They are SX, LX, LHX, XD, and ZX.

The following table lists the types of fiber that the switch supports. If you don't see the cable type you need, contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

Table 3-1. Fiber supported by the switch.

| Fiber cable type | Multimode Fiber Cable and Modal Bandwidth | | | |
|---|---|---|---|---|
| IEEE 802.3z Gigabit Ethernet 1000BASE-SX, 850 nm | Multimode 62.5-/125-µm | | Multimode 50-/125-µm | |
| | Modal Bandwidth | Distance | Modal Bandwidth | Distance |
| | 160 MHz-km | 721.7 ft. (220 m) | 400 MHz-km | 1640.4 ft. (500 m) |
| | 200 MHz-km | 902.2 ft. (275 m) | 500 MHz-km | 1804.5 ft. (550 m) |
| 1000BASE-LX/LHX/ZX | Single-mode fiber 9/125 m | | | |
| | Single-mode transceiver 1310 nm, 6.2 mi. (10 km), or 18.6 mi. (30 km) | | | |
| | Single-mode transceiver 1550 nm, 31.1 mi. (50 km) | | | |
| 1000BASE-LX single fiber (BiDi SC) | Single-mode 12.4 mi. (20 km) | | TX (Transmit) 1310 nm | |
| | | | RX (Receive) 1550 nm | |
| | Single-mode 12.4 mi. (20 km) | | TX (Transmit) 1550 nm | |
| | | | RX (Receive) 1310 nm | |

## 4. Configuring the Management Agent of the Gigabit Smart Switch Eco Fanless

Via the Web, the switch can set up the management function. Use any one of them to monitor and configure the switch.

### Configuring the Management Agent of the Gigabit Smart Switch Eco Fanless through the Ethernet Port

There are two ways to configure and monitor the switch through the switch's Ethernet port. They are Web browser and SNMP manager. The user interface for the SNMP manager is management software-dependent and is not described in this manual. Using the Web-based UI for the switch is described here.

24-Port Gigabit Smart Switch Eco Fanless

Default IP setting:

IP = 192.168.1.1

Subnet Mask = 255.255.255.0

Default Gateway = 192.168.1.254

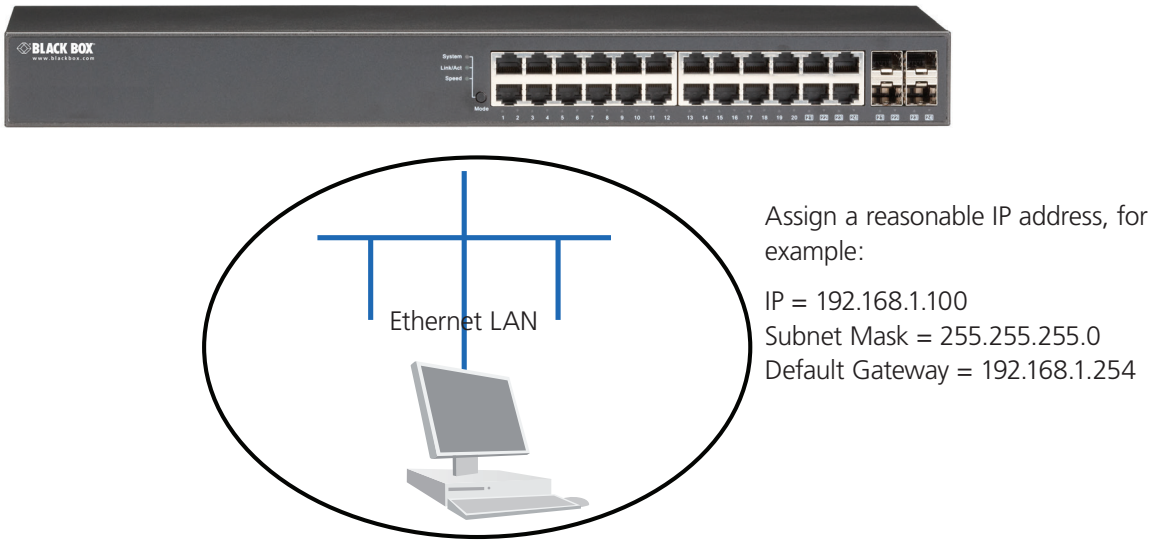
Ethernet LAN
Assign a reasonable IP address, for example:
IP = 192.168.1.100
Subnet Mask = 255.255.255.0
Default Gateway = 192.168.1.254

Figure 4-1. Gigabit Smart Switch Eco Fanless.

### Managing the Gigabit Smart Switch Eco Fanless through the Ethernet Port

Before you communicate with the switch, you must first configure its IP address or know the IP address of the switch. Then, follow the procedures described next.

1. Set up a physical path between the configured switch and a PC, using a qualified UTP CAT5 cable with an RJ-45 connector.

*NOTE: If a PC directly connects to the switch, you have to set up the same subnet mask between them. However, the subnet mask may be different for the PC in the remote site. See Figure 4-1 for default IP address information of the 24-Port Gigabit Smart Switch Eco Fanless.*

2. Run a Web browser and follow the menu. Please refer to Chapter 5 in the user manual for more information.

*NOTE: For installation examples, see the user manual.*

# Black Box Tech Support: FREE! Live. 24/7.

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## About Black Box

Black Box provides an extensive range of networking and infrastructure products. You'll find everything from cabinets and racks and power and surge protection products to media converters and Ethernet switches all supported by free, live 24/7 Tech support available in 60 seconds or less.

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